

# Notice of Allowability

Application No.

10/530,964

Examiner

Christine Sung

Applicant(s)

DOMKE ET AL.

Art Unit

2884

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 4/11/05 and 11/14/05.
2. ☒ The allowed claim(s) is/are 18-37.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date 11/05
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

**DETAILED ACTION**

***Allowable Subject Matter***

1. Claims 18- 37 are allowed.
2. The following is an examiner's statement of reasons for allowance:
  - a. Regarding claims 18-29, none of the prior art of record specifies or makes obvious a device, namely the plurality of closable diaphragm apertures located in the beam path, the plurality of closable diaphragms apertures enabling a temporal control of irradiation of irradiation fields that lie on the object and are situated downstream of the diaphragm apertures, along with the other claimed elements.
  - b. Regarding claim 37, none of the prior art of record specifies or makes obvious a device for testing objects coated with photosensitive resists, namely the means for interrupting the beam path that comprises a plurality of closable diaphragm apertures that enable a temporal control of the irradiation of irradiation field that lie on the object and are situated downstream of the diaphragm apertures, in combination with the other claimed elements.
  - c. Regarding claims 30-36, none of the prior art of record specifies or makes obvious the method of irradiating an object, namely the step of interrupting a beam path of the EUV radiation beam by closing ones of a plurality of closable diaphragm apertures, wherein each diaphragm aperture is closed at an instant when the detecting ascertains that the radiation dose corresponds to a desired value, along with the other claimed steps.

- i. Conventional EUV exposure methods employ a fixed time for exposure, however, none of the prior art of record specifies achieving the correct dosage by closing one of a plurality of diaphragm apertures at the instant the detecting step ascertains that the radiation dose has reached a desired level value.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

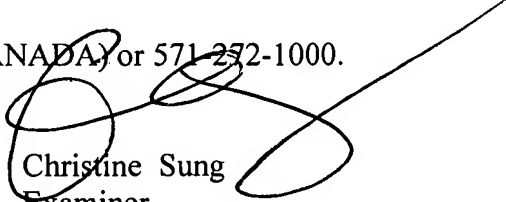
### *Conclusion*

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
  - d. US 20030146391 A1- this reference matches the detection beam path light spreading with the collector optics of the illumination beam path by a diaphragm with a defined aperture.
  - e. US 20030170552- this reference uses a test exposure pattern with a reference pattern.
  - f. US 6558084- this reference discloses a spatially changing optical system.
  - g. US 20050274897- this reference discloses illumination that is spatially and temporally fixed.
  - h. US 20060192935A1- this reference discloses conventional way to get temporally different doses by adjusting the aperture. The aperture/diaphragm does not lie on the object but rather is part of the optical system that is upstream from the object.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Sung whose telephone number is 571-272-2448. The examiner can normally be reached on Monday- Friday 9-5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Christine Sung  
Examiner  
Art Unit 2884